

1160 W. Orange Grove Ave., Arcadia, California, U.S.A. 91006

© Copyright 1966

## THE LITTLE KNOWN MOTH *EUXOA SCULPTILIS* (HARVEY) IN ARIZONA,

WITH DESCRIPTIONS, ILLUSTRATIONS, AND NOTES ON *EUXOA VIOLARIS* (GROTE AND ROBINSON) (NOCTUIDAE-AGROTIINAE)

J. S. BUCKETT

University of California, Davis, California

*EUXOA SCULPTILIS* (HARVEY) WAS DESCRIBED from specimens collected in Texas, and until recently has been poorly known in collections. This species is in the adult stage during the autumn months, and because of its occurrence during this late time of year, most collectors have not taken species. *E. sculptilis* has been collected from the first part of October into early December, and without the aid of a collector-in-residence, the large series at hand would probably not have come before the author. Nothing is yet known concerning the immature stages of this species.

Since the original description of *sculptilis* in 1874, the species has been shifted from *Agrotis* to *Ammaconia* to *Richia* to *Carneades* to *Paragrotis* and finally to *Euxoa* in 1903 by Hampson, where it is presently placed by most authors. Strangely enough, *Euxoa violaris* (Grote and Robinson), the most closely related species to *sculptilis*, was not even placed in the genus *Euxoa* until McDunnough (1928) in his generic revision of the North American agrotid moths, placed it next to *sculptilis*. *E. violaris*, as in the case with *sculptilis* is poorly represented, or entirely lacking in most collections.

"*Carneades*" *xyliniformis* Smith was described in 1890, and Smith stated "This species is unique in appearance and has a striking habitual resemblance to *Litholomia napae*." He further stated "The species is unique wherever placed, and is readily recognizable." "*C.*" *xyliniformis* is conspecific with *E. sculptilis*, and therefore was placed into synonymy by Smith (1893). *E. sculptilis* is quite distinctive (as can be seen in figures 1 and 2)

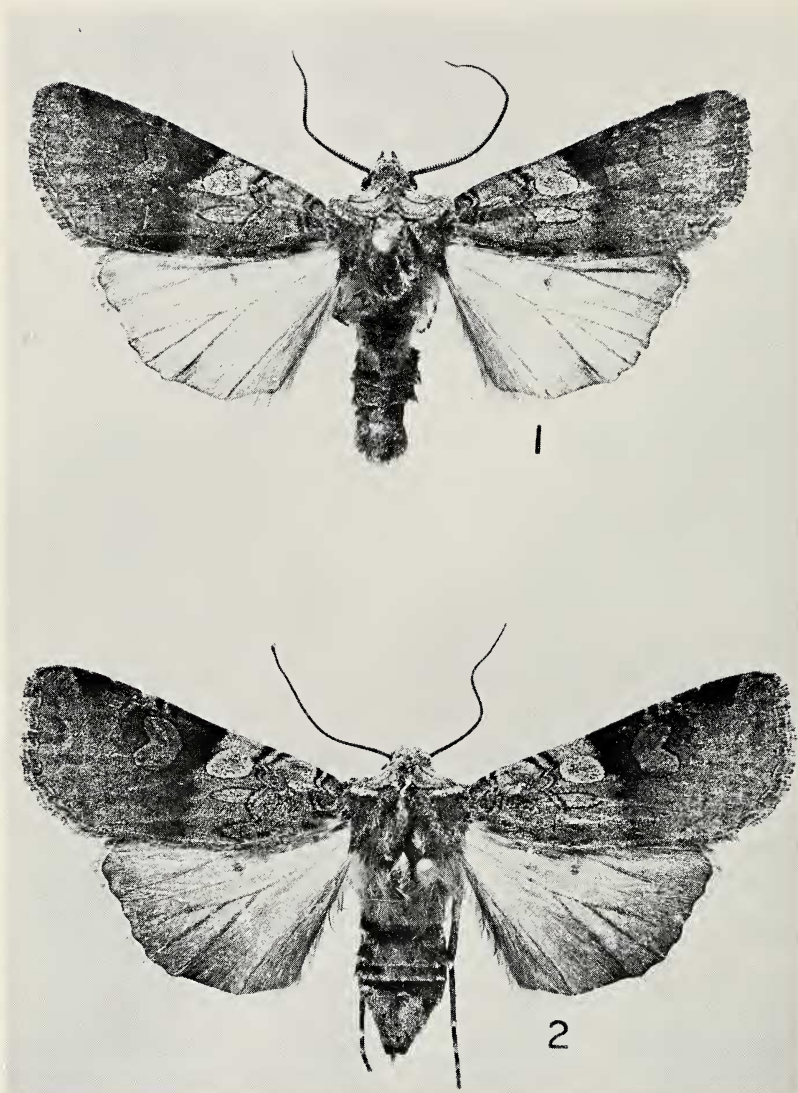


Fig. 1. *Euxoa sculptilis* (Harvey), male. Madera Canyon, Santa Rita Mountains, Santa Cruz County, Arizona, ele. 4880', 17 November 1966 (D. N. Harrington).

Fig. 2. *E. sculptilis*, female. Same data as preceding.

and does remind one of *Litholomia napae* in general appearance. Hampson's colored illustration of *sculptilis* is quite good, and will readily aid in identification of this species; whereas,

the colored illustration by Draudt (in Seitz, 1923) is altogether off color and the shape of the forewing is not correct either.

### EUXOA SCULPTILIS (Harvey)

*Agrotis sculptilis* Harvey, 1874. *Bull. Buffalo Soc. Nat. Sci.* 2:271.

MALE: Ground color of primaries transversely bicolor, basal one-half silvery grey, terminal one-half blackish grey; secondaries dirty whitish. Head with vertex clothed in elongate, blackish flattened hairs, white tipped, hairs porrect so as to form eyelash-like tufts over base of antennae; between antennae a transverse black bar is present; frons also with eyelash-like divided tufts dorsally, composed of dark brown white-tipped flattened hairs and white scales; beneath eyelash-like tufts, and between compound eyes a coal black broad transverse band is present, composed of simple and flattened elongate hairs; beneath this band, a tuft of brownish, white-tipped elongate flattened hairs, one each exterolateral of frons; central portion of frons of brown short hairs; frons roughened, centrally with ovate protrusion, pointed end directed dorsally, palpi with apparent basal segment exterolaterally black, ventrally clothed in brownish; second segment exterolaterally composed of brownish scales, ventrally clothed in elongate black, greyish brown and whitish hairs; third segment short, less than one-half length of second segment, clothed in greyish and blackish scales; antennae with scape, pedicle clothed in brown, reddish-brown and dark brown elongate hairs, elongate, dentate scales; flagellomeres bi-serrate, bipectinate, pectinations and serrations becoming reduced to ciliations and filamentous apically. Thorax with collar composed of reddish brown elongate hairs and elongate dentate scales, with two bilobed transverse bands, one basally, another medially; scales and hairs between bands white-tipped; slight anterior tuft composed of bicolor, basally brown, apically dark brown, white-tipped elongate hairs; disc composed as is anterior tuft; tegulae conspicuously of black elongate dentate scales and hairs, with inner margin possessing a band of brownish, white-tipped, elongate dentate scales; posterior tuft basally brown, preapically dark brown, apically white-tipped; posteriorly with elongate simple, silken hairs; at base of forewing, and beneath it, a bunch of deeply cleft elongate scales forms a yellowish-red cluster; primaries dorsally transversely bicolor; basal one-half of surface heavily overlain with white scales, therefore appearing grey; basal half line geminate, black, centrally grey

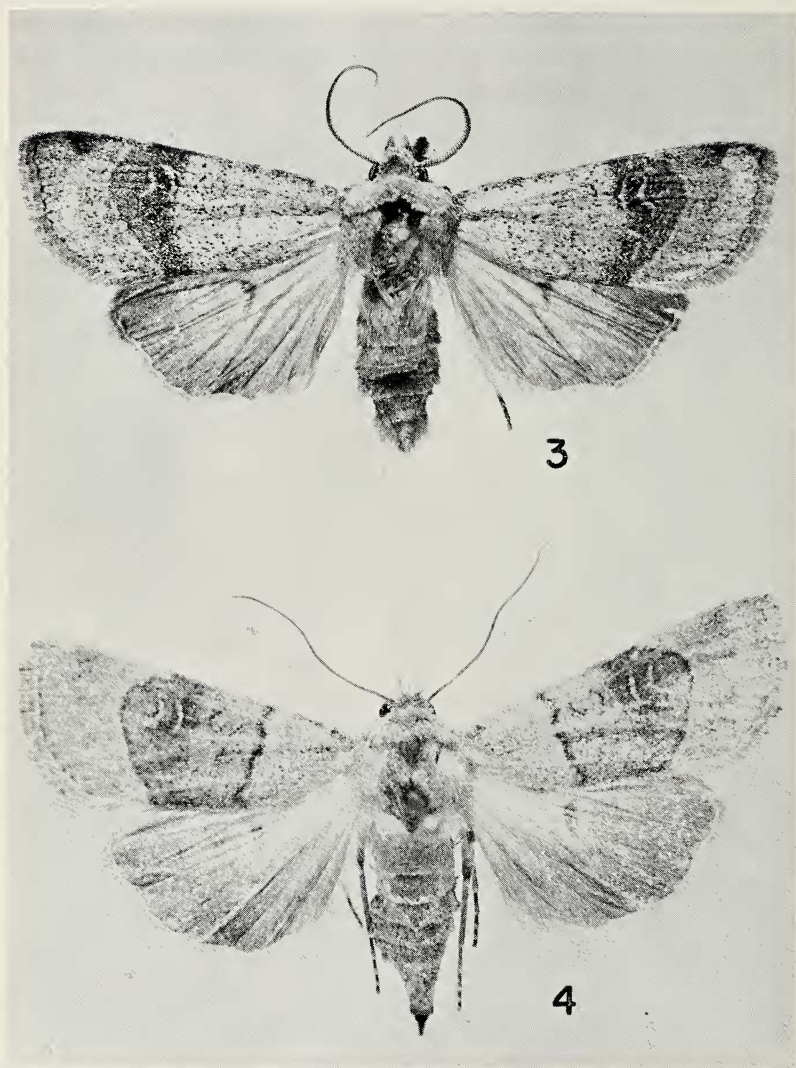


Fig. 3. *Euxoa violaris* (Grote and Robinson), male. Lakehurst, New Jersey, 21 September 1910 (F. Lemmer).

Fig. 4. *E. violaris*, female. Long Island, New York, 29 September 1900.

filled, very distinct; basal and transverse anterior area contiguous on inner margin; transverse anterior area grey, centrally with white dot; transverse anterior line black, very distinct, geminate,

centrally filled with grey, from where transverse anterior line intersects 2dA vein to where it reaches inner margin, it bows apically, therefore appearing like a geminate subclaviform; median area to median shade grey; claviform distinct, neatly outlined in black; orbicular large, more triangular than round, neatly outlined in black, thence white, centrally filled with grey; median shade black, contrasting markedly with grey portion of median area; remainder of median area dark brown, costally with light brown scales; transverse posterior line represented on costa just above reniform, appearing as geminate black dash, thence undulating out around reniform and very faintly on to inner margin; subterminal area dark, but with more grey than adjoining median area; subterminal line represented costally as dark wedge, thence hardly discernable; terminal line represented as black lunules between veins; fringes basally light brown, remainder smokey; ventral surface bordered in grey, medially brownish; transverse posterior line represented as black costally, thence a very faint line on to inner margin; secondaries dorsally whitish; inner margin with brown scales and hairs; veins outlined in brown; terminal line dark brown; fringes tricolor, basally light brown, medially brown, apically white-tipped; ventral surface whitish, costal margin irrorated with black so as to form faint dark band; exterior line thin, black; fringes whitish, becoming darker toward apex; ventrally, thorax clothed in brownish, white-tipped simple hairs; legs with profemora dorsally black, ventrally composed of elongate white-tipped, brown simple hairs; protibiae heavily spined; tarsi dark brown, a suggestion of a lighter apical annulus on each tarsomere; ungues weakly bifid. Abdomen dorsally clothed in brown and white simple elongate hairs and elongate dentate scales; ventrally clothed in elongate, brown, white scales. Greatest expanse of forewing 16mm to 19mm. Genitalia as in figures 6 and 7.

**FEMALE:** For all practical purposes, as in male, except antennae simple, ciliate, thorax lacking basal bilobed black band of collar; primaries slightly darker; secondaries dorsally fuscous. Greatest expanse of forewing as in male, may average very slightly larger. Genitalia as in figure 5.

#### Specimens examined

One male, Madera Canyon, Santa Rita Mountains, Santa Cruz County, Arizona, ele. 5880', 19 October 1959 (J. G. Franclemont), Bauer-Buckett slide No. NY63L11-15; 1 female, same locality and collector as preceding 7 October 1959, Bauer-Buckett slide

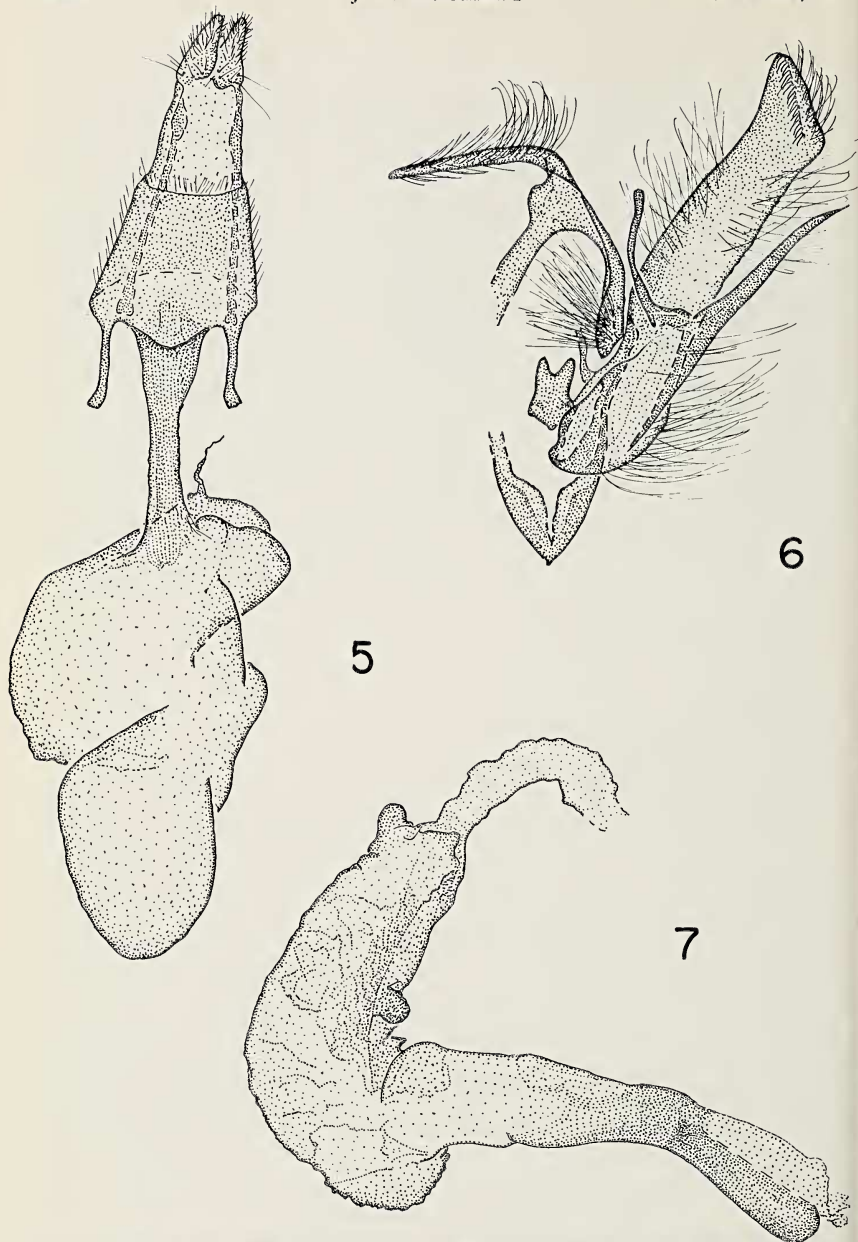


Fig. 5. *E. sculptilis*, female genitalia. Madera Canyon, Santa Rita Mountains, Santa Cruz County, Arizona, 7 October 1959, ele. 5800' (J. G. Franclemont), Bauer-Buckett slide No. NY63L11-16.

Fig. 6. *E. sculptilis*, male genitalia minus aedeagus. Locality and collector same as preceding, 19 October 1959, Bauer-Buckett slide No. NY63L11-15.

Fig. 7. *E. sculptilis*, aedeagus of male genitalia. Data same as for fig. 4.

No. NY63L11-16; remainder of specimens all Madera Canyon unless otherwise stated; 2 males, 2 females, 8 October 1963 (V. L. Vesterby); 1 male, 5 November 1965 (D. N. Harrington), Bauer-Buckett slide No. 66C31-1; 1 female, 5 November 1965 (D. N. H.), Bauer-Buckett slide No. 66C31-2; 8 males, 9 females, 2 November 1966 (D. N. H.); 1 male, 7 October 1965 (D. N. H.); 20 males, 25 females, 2-5 November 1965 (D. N. H.); 15 males, 8 females, 21-28 October 1965 (D. N. H.); 4 males, 14 October 1965 (D. N. H.); 3 males, 6 December 1965 (D. N. H.); 16 males, 21 females, 27 November 1965 (D. N. H.); 15 males, 27 females, 14 November 1965 (D. N. H.); 1 female, Kerrville, Texas, with label "det. & pres. by Wm. Barnes."

Over 200 specimens of *sculptilis* were examined from the southwestern United States, the majority of these being from Madera Canyon, Santa Rita Mountains, Santa Cruz County, Arizona, elevation 4880'. Specimens were also collected at 5800' elevation in Madera Canyon. The genitalic slides were prepared while the author was studying under Dr. John G. Franclemont in Ithica, New York, in 1963. Merthiolate instead of ligin pink was used as the stain. Thanks are due Dr. Franclemont for his encouragement and instruction during that most fruitful experience.

At this time I would like to express my appreciation to Master Danny Harrington of Madera Canyon, Arizona for his splendid efforts in collecting moths during the past few years. Without his effort, this presentation would not have been possible.

#### REFERENCES

- BARNES, W., and J. H. McDUNNOUGH, 1917. Checklist of the Lepidoptera of Boreal America. The Herald Press, Decatur, Ill., viii + 392 pp.
- DRAUDT, M. (In: Seitz, A. A.), 1923. The Macrolepidoptera of the World. Alfred Kernen Press, Stuttgart, 396 pp. + 64 plates.
- DYAR, H. G., 1903 (1902). A list of North American Lepidoptera and key to the literature of this order of insects. *Bull. U.S. Natl. Mus.*, No. 52, xix + 721 pp.
- GROTE, A. R., 1887. On the genus *Richia*. *Canad. Entom.* 19(3):44.
- HAMPSON, G. F., 1903. Catalogue of the Noctuidae in the collection of the British Museum. Longmans & Co. Press, London, xx + 689 pp.
- McDUNNOUGH, J. H., 1928. A generic revision of North American Agrotid Moths. *Bulletin No. 55, Biological Series, No. 16*, Canadian Department of Mines, 78 pp.
- SMITH, J. B., 1890. Contributions toward a monograph of the insects of the Lepidopterous family Noctuidae of temperate North America. Revision of the species of the genus *Agrotis*. *Bull. U.S. Natl. Mus.*, No. 38, 237 pp.
- \_\_\_\_\_, J. B., 1893. Catalogue of the Lepidopterous superfamily Noctuidae found in Boreal America. *Bull. U.S. Natl. Mus.*, No. 44, 424 pp.